

REVIEW PLAN
USING THE NWD MODEL REVIEW PLAN
for
Continuing Authorities Program
Section 14, 107, 111, 204, 206, 208, 1135 and projects directed by guidance to
use CAP procedures

SHERIDAN, WYOMING
Section 1135 Project

Omaha District

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**REVIEW PLAN
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**SHERIDAN, WYOMING
Section 1135 Project**

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1. PURPOSE AND REQUIREMENTS

a. Purpose.

This Review Plan defines the scope and level of peer review for the *Sheridan, Wyoming*, Section 1135 project.

b. Authority

Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, provides the authority to modify existing Corps projects to restore the environment and construct new projects to restore areas degraded by Corps projects with the objective of restoring degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability and biological diversity. This authority is primarily used for manipulation of the hydrology in and along bodies of water, including wetlands and riparian areas. It is a Continuing Authorities Program (CAP) which focuses on water resource related projects of relatively smaller scope, cost and complexity. Traditional USACE civil works projects are of wider scope and complexity and are specifically authorized by Congress. The Continuing Authorities Program is a delegated authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization.

Additional Information on this program can be found in Engineering Regulation 1105-2-100, Planning Guidance Notebook, Appendix F Amendment #2.

c. Applicability.

This review plan is based on the NWD Model Review Plan for Section 14, 107, 111, 204, 206, 208, 1135 and authorities directed by guidance to follow CAP procedures, which is applicable to projects that do not require Independent External Peer Review (IEPR), as defined in EC 1165-2-214 Civil Works Review Policy.

d. References

- (1) Continuing Authority Program Planning Process Improvements, Director of Civil Works' Policy Memorandum #1, 19 Jan 2011
- (2) Engineering Circular (EC) 1165-2-214, Civil Works Review, 15 Dec 2012
- (3) EC 1105-2-412, Model Certification, 31 May 2005
- (4) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (5) ER 1105-2-100, Planning Guidance Notebook, Appendix F, Continuing Authorities Program, Amendment #2, 31 Jan 2007
- (6) ER 1105-2-100, Planning Guidance Notebook, Appendix H, Policy Compliance Review and Approval of Decision Documents, Amendment #1, 20 Nov 2007
- (7) Omaha District Draft SOP for District Quality Control of Planning Products, 6 Dec 2011
- (8) QMS 08501 NWO, Engineering Division Quality Control Process for In-House Projects/Products, 20 Sep 2012

2. PROJECT INFORMATION

a. Decision Document.

The *Sheridan, Wyoming Feasibility Report* decision document will be prepared in accordance with ER 1105-2-100, Appendix F Amendment #2. The approval level of the decision document (if policy

compliant) is the home MSC. An Environmental Assessment (EA) will be prepared along with the decision document.

b. Study/Project Description.

(1) Project Background

The existing Sheridan, Wyoming flood control project, authorized for construction by the Flood Control Act of 1950 (P.L. 516), consists of levees, channel alterations, drainage structures, concrete chutes and drop structures, and steel sheet pile and bin walls which were designed to protect the city from flood discharges in Goose and Little Goose Creeks. Construction of the Sheridan Project was completed in two stages. Stage 1 was started in August 1961 and involved construction of levees, channel alterations, drainage structures, a concrete chute, a concrete drop structure, and sheet piling. This stage was completed in August 1963 and turned over to the city of Sheridan in December 1963. Stage 2 began in June 1965 and consisted of construction and channel straightening on Little Goose Creek upstream from Stage 1 construction. Construction of Stage 2 was completed in 1966. According to the Operations and Maintenance Manual for the project there was a proposed Stage 3 involving construction upstream on Big Goose Creek that was delayed in 1967 at the request of the city for financial reasons. A modification to the existing drop structure on Goose Creek was completed in August 1995. Figure 1 shows the entire study reach and the various flood risk management features that were constructed as part of the existing project.

The sponsor for the existing flood control project and the proposed Section 1135 project is city of Sheridan. The city of Sheridan submitted a letter requesting to cost-share a feasibility study to the Corps in April 2013. Specific interests of the sponsor in this project include increasing and restoring channel habitat, reestablishing some connectivity with upstream and downstream reaches of the creeks, and restoring natural function back to the channel.



(2) Study Area

The Sheridan Project is located in the city of Sheridan, Wyoming in the north central portion of the state. The city is situated in the historic floodplain of Goose Creek and its two largest tributaries, Little Goose Creek and Big Goose Creek.

The study area for the Section 1135 includes the upstream and downstream extents of existing flood risk management features and a lateral distance of approximately 500 feet on either side of the creek. The distance is based on the assumption that ecosystem problems and restoration opportunities are expected to be situated in close proximity to the creek. During a

reconnaissance site visit in March 2014, the Project Delivery Team and sponsor investigated the project site and identified areas of ecosystem degradation and opportunities for restoration. The study area was divided into four primary reaches: Little Goose Creek Reach, Big Goose Creek Reach, Downtown Reach, and the Goose Creek Reach (Figure 2).



(3) Types of Measures / Alternatives

Various ecosystem restoration measures will be considered during this study both within the limits of the channel and adjacent to the channel.

All Reaches

- In-stream habitat measures: These measures will be evaluated in all reaches within the study area. The purpose of in-stream habitat features is to provide additional habitat and create a diversity of aquatic conditions to improve habitat. In-stream habitat measures evaluated will consist of cross vanes, offset straight vanes, j-hook vanes, random rock clusters, converging roller eddy structures, and toe wood benches. These measures have been used successfully in reference reaches upstream and/or downstream of the project area. Outcomes of this measure will include improved depth and velocity diversity, improved sediment transport, lower water temperatures, increased dissolved oxygen, deeper pools, and types of habitat features in the stream (glide, riffle, run).

Little Goose Creek Reach

- Creekside Meadow measure: This measure is located approximately 300 feet downstream of South Sheridan Avenue on the right bank of Little Goose Creek. A vacant grassed lot approximately five acres in size is situated in this location adjacent to the stream. The lot is not part of the protected flood zone of the existing FRM project. The purpose of this measure is to improve riparian and wetland habitat adjacent to the creek and improve connectivity between the creek and adjacent lands. This could be accomplished through creation of riparian, scrub-shrub, emergent, or forested wetland habitat and through creation of hydrologic connection between the creek and the parcel. Outcomes of this measure would consist of increased aquatic and wetland habitat.
- Washington Park measure: This measure is located off of Coffeen Avenue upstream of East Herald Street. The park is situated on both banks of the stream. The availability of land in the city park creates opportunity for restoration work in this location. The purpose of this measure is to establish a floodplain bench and create connectivity between the channel and adjacent lands. This could be accomplished by softening the steep side slopes of the channel and widening the cross-section of the flood control channel. Opportunity may exist for establishing emergent wetland vegetation in conjunction with in-stream habitat features. A secondary outcome of this measure could be increased public access to the creek through trail expansion.
- Water Street sub-reach measures: The Water Street reach extends for approximately seven city blocks from East College Avenue downstream to East Brundage Street. The creek in this area is completely straightened with a uniform cross-section. Assessment of the creek in this area by the PDT identified an opportunity to improve wetland habitat immediately adjacent to the low-flow channel in-stream habitat within the channel. Measures that will be evaluated include in-stream habitat features previously discussed and smaller-sized floodplain benches. The purpose of these measures is to improve aquatic and wetland habitat diversity. The intended outcome is to improve hydraulic conditions for aquatic species. A secondary outcome of this measure could be increased public access to the creek through trail expansion.
- Railroad sub-reach measures: The railroad sub-reach extends from North Sheridan Avenue to the railroad bridge at the east side of downtown. A railroad track borders the right bank and several parking lots border the left bank of the creek in this reach. The geometry of the creek is similar to the Water Street sub-reach but there is a gradual curvature as the creek turns and flows to the north. A brownfield site on the left bank of the river and the railroad infrastructure in this area are potential planning constraints. Potential restoration measures in this sub-reach consist of removing or relocating the railroad or parking lots to widen the cross-section and create floodplain benches and in-stream habitat structures. The intended

outcome is to improve hydraulic conditions for aquatic species. The ability to obtain real estate from either the railroad or adjacent landowners on the left bank will be assessed early in the planning process. A secondary outcome of this measure could be increased public access to the creek through trail expansion.

Downtown Reach: This reach extends from the abandoned railroad bridge to the confluence of Little and Big Goose Creeks. The concrete lining of the channel generally extends along the entire reach. The bottom width of the channel is 50 feet and the height of the walls is approximately 10 feet. Removal of the concrete base and walls will require careful structural engineering analysis to ensure that the bridges are not compromised. This reach is constrained by four city bridges that cross the creek and roadways that parallel the creek on both sides. There is opportunity for removal of West 1st Street on the north side and potentially a bridge or two.

The purpose of restoring this section of the river is to improve stream habitat and depth diversity and create aquatic habitat connectivity between upstream and downstream reaches. Potential restoration measures include:

- Removal of West 1st Street and the north concrete wall and tapering back the right bank to allow for a more natural floodplain connection, re-introduction of stream meanders, and public access.
- In-stream habitat features such as glides, riffles and runs to create improved depth and velocity diversity, improved sediment transport, lower water temperatures, increased dissolved oxygen, and deeper pools.
- Enhancement of the riparian corridor through vegetative plantings.
- Bridge modifications will be considered for the purpose of improving the stream sinuosity and increased floodplain connection. Initial input from the sponsor was that Val Vista Street and North Gould Street are the two potential candidates.

The intended outcome is to improve hydraulic conditions for aquatic species, fish passage potential, and connectivity between upstream and downstream reaches.

Big Goose Creek Reach: This reach extends from Kendrick Park at the upstream end to the confluence with Little Goose Creek at the downstream end. In addition to in-stream habitat structures, measures in this reach are intended to address problems associated with urbanization that have altered the stream bed configuration.

- The existing FRM project contains a series of drop structures in the channel that restrict fish passage and create channel instability. Measures that reconfigure the heights of the drop structures will be assessed with the intended outcome of allowing for fish passage.
- At the downstream end of the habitat structures there may be an opportunity to create a floodplain bench in the vicinity of Mill Park. The intended outcome of this measure would be to increase the range of aquatic and wetland vegetation types at the confluence of the two creeks and improve overall habitat in this key area.

Goose Creek Reach

- Thorne Rider Park oxbow measure: On the left bank opposite of Thorne Rider Park there is an historic oxbow of Goose Creek that is currently disconnected from the stream. The opportunity exists to reconnect approximately 1,400 linear feet of this oxbow wetland to

the creek. The oxbow is not currently separated from the creek by a levee, which increases restoration potential. This measure would assess the viability of establishing freshwater flow from the creek through the oxbow. It is believed that the oxbow is currently supported by groundwater, and field verification is necessary to delineate the existing wetland types present. The intended outcome of this measure is to restore a portion of the historic channel while providing quality fish habitat and improving the quality of existing wetlands.

- Dog Park measure: South of Fort Road on the right bank of the creek is an existing dog park protected by a levee. The dog park is approximately three acres in size and very flat. The purpose of this measure is to evaluate the potential for creating floodplain connectivity with the dog park. In order to achieve this, potential modifications to the existing right bank levee will need to be assessed. The intended outcome would be increased wetland area and diversity of habitats in the vicinity of the creek.
- Channel narrowing measure: The Goose Creek channel exhibits a wider channel cross-section which limits natural in-stream habitat and flow conditions. This contributes to lower velocity, decreased sediment transport, higher width-to-depth ratio, and higher water temperatures, and lower dissolved oxygen. The purpose of this measure is to evaluate ways to narrow the river in this reach to increase flow and depth diversity. The intended outcome would be to improve the quality of hydraulic habitats for fish and other aquatic species.

(4) Range of Cost

Not applicable at this time. The range of costs for the various alternatives will be developed as part of the study, however it is anticipated that the conceptual-level estimated cost of a recommended plan might be approximately \$6 million.

(5) Non-Federal Sponsors

The non-federal sponsor for this project will be the City of Sheridan, Wyoming.

(6) Policy Waiver Requests

Presently, there are no policy waiver requests being pursued for this project.

c. In-Kind Contributions.

Products and analyses provided by non-Federal sponsors as in-kind services are subject to District Quality Control (DQC) and ATR similar to any products developed by USACE. Negotiated in-kind products/analyses to be provided by the sponsor include recreation survey data such as user counts and estimates of recreation resource quality, in-channel habitat structure designs, baseline environmental resource data, and hazardous, toxic, and radioactive waste phase 1 site assessment data.

3. DISTRICT QUALITY CONTROL (DQC)

All decision documents (including supporting data, analyses, environmental compliance documents, etc.) shall undergo District Quality Control (DQC) as part of standard quality management for the District. The purpose of DQC is to ensure the technical accuracy and quality of scientific and engineering work products and decision documents. The home district shall manage DQC following the Quality Manual and associated Quality Management System (QMS) or Standard Operating Procedures (SOP) of the District and the Division.

a. Products to Undergo DQC.

All work products, and components of the decision document including those performed by the sponsor as work in-kind, will undergo DQC review at a minimum for the draft report and final report milestones. All work products, and components of the design plans and specifications and the Design Documentation Report (DDR) developed during the Design and Implementation Phase, including any products performed by the sponsor and/or A-E contractors, will undergo DQC at significant interim milestones, typically 30-, 50-, 90-, and 100-percent. The PM and PDT will establish the appropriate interim milestones for the Design and Implementation Phase and this Review Plan will be updated to reflect the specific review milestones.

b. Required DQC Expertise.

(1) Interdisciplinary Check

The Interdisciplinary Check will be performed by the PDT and serves to ensure consistency in the presentation of data, analyses, and results throughout the report. The principle PDT members responsible for the Interdisciplinary Check are: Plan Formulation, Biologist, Economist, Geotechnical Engineer, Structural Engineer, Hydraulic Engineer, Hydrologist, Floodplain Engineer, Geomorphology, Real Estate Specialist, Cost Engineer, Water Resource Planner, and Recreation Planner.

(2) Quality Check

The Quality Check will be performed by senior level subject matter experts (SMEs) and/or supervisors for each of the technical PDT member disciplines, and serves as peer technical review and quality assurance and District-level policy review of the report prior to initiating external reviews.

c. Documentation of DQC.

All substantive DQC comments will be recorded using Dr. Checks. Dr. Checks will be used to document all comments, responses, and for reviewers to back check and document any associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. Documented substantive comments shall employ the four part comment process outlined in EC 1165-2-214 which consists of:

- (1) Review concern – identify information deficiency or incorrect application of policy, guidance, or procedures;
- (2) Basis for concern – cite applicable law, policy, guidance, or procedure;
- (3) Significance of the concern – indicate relative importance of the issue with regard to its potential impact on plan selection, plan components, efficiency, effectiveness, implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) Suggested approach to address – identify the action(s) that must be taken to resolve/address the concern.

4. AGENCY TECHNICAL REVIEW (ATR)

One ATR is mandatory for all decision documents (including supporting data, analyses, environmental compliance documents, etc.), however additional ATRs may be performed if deemed warranted. ATR is managed within USACE by the designated RMO and is conducted by a qualified team from outside the home district that is not involved in the day-to-day production of the project/product. ATR teams will be comprised of senior USACE personnel. The ATR team lead may be from within the home MSC.

a. Products to Undergo ATR.

All work products, and components of the decision document including those performed by the sponsor as work in-kind, will undergo ATR at a minimum for the draft feasibility report. All work products, and components of the design plans and specifications and the Design Documentation Report (DDR) developed during the Design and Implementation Phase, including any products performed by the sponsor and/or A-E contractors, will undergo ATR at a minimum at the 95-percent complete milestone.

b. Required ATR Team Expertise.

It is anticipated that the ATR Team will consist of 10 or 11 persons with the expertise noted in Table 1. Individuals that may provide those services are noted based on previous ATRs of Feasibility Studies. In accordance with NWD guidance on review procedures for CAP projects, it is expected that the ATR team will be identified from other Districts within Northwestern Division.

c. Charge Document.

The district will prepare the charge document which clearly identifies the review requirements. This document must be completed prior to requesting an ATR team.

Unless otherwise requested by NWD or others this review plan is assumed by Omaha District to be the charge document.

d. Documentation of ATR.

DrChecks review software will be used to document all ATR comments, responses and associated resolutions accomplished throughout the review process. Comments should be limited to those that are required to ensure adequacy of the product. Documented substantive comments shall employ the four part comment process outlined in EC 1165-2-214 which consists of:

- (1) Review concern – identify information deficiency or incorrect application of policy, guidance, or procedures;
- (2) Basis for concern – cite applicable law, policy, guidance, or procedure;
- (3) Significance of the concern – indicate relative importance of the issue with regard to its potential impact on plan selection, plan components, efficiency, effectiveness, implementation responsibilities, safety, Federal interest, or public acceptability; and
- (4) Suggested approach to address – identify the action(s) that must be taken to resolve/address the concern.

If an ATR concern cannot be satisfactorily resolved between the ATR team and the PDT, it will be elevated to the vertical team for further resolution in accordance with the policy issue resolution process described in either ER 1110-2-12 or ER 1105-2-100, Appendix H, as appropriate. Unresolved concerns can be closed in *DrChecks* with a notation that the concern has been elevated to the vertical team for resolution.

Table 1. ATR Team Composition and Required Expertise

ATR Team Members/Disciplines	Expertise Required
ATR Lead Suggested: John Grothaus, NWK-PM-PF	The ATR Lead should be a senior professional preferably with experience in preparing Section 1135. The ATR Lead should also have the necessary skills and experience to lead a virtual team through the ATR process. Typically, the ATR Lead will also serve as a reviewer for a specific discipline. In this case it is recommended that the ATR Lead be a Planner. The ATR Lead MAY be from within the Northwestern Division. The ATR Lead should be familiar with stream channel restoration along the Northern Rocky Mountains.
Planning Suggested: TBD	The Planning Reviewer should be a senior water resources planner with experience in ecosystem restoration planning, and if possible some trout fisheries experience.
Economics / Recreation Planner Suggested: TBD	The Economics reviewer should have experience conducting recreation planning. This project will assess baseline recreation conditions and be utilizing appropriate methodology (likely Unit Day Values), to assess the benefits of various recreation components. The Economist should also have experience working with Environmental Planners and running IWR Planning Suite Software (specifically, CE/ICA).
Environmental Resources / Planner Suggested: TBD	The environmental resource planner reviewer should be an expert. They should have experience in conducting NEPA analysis, stream restoration, fisheries, HEP or HSI modeling, wetland restoration, CE/ICA, habitat assessments, impact analysis, restoration methods, and CAP scale ecosystem restoration projects.
Cultural Resources Suggested: TBD	The cultural resource specialist should have experience cultural resource laws and regulations and related USACE policies.
Hydraulic Engineering Suggested: TBD	The hydraulic engineering reviewer will be an expert in the field of hydraulics and have a thorough understanding of channel and river engineering, channel stabilization, knowledge of open channel dynamics, enclosed channel systems, application of channel restoration techniques (including in-channel habitat structures), and a good understanding of hydrologic principles.
Geotechnical Engineering Suggested: TBD	The geotechnical engineer will be a flood risk management expert, and have experience in levees and wetland restoration.
Structural Engineering Suggested: TBD	The structural engineer will be an expert in concrete channel structure design.
Cost Engineering Suggested: TBD	Cost DX Staff or Pre-Certified Professional with experience preparing cost estimates for ecosystem restoration projects.
Real Estate Suggested: TBD	The real estate reviewer should have considerable experience completing routine Civil Real Estate processes and real estate standard easements.
Hazardous, Toxic and Radioactive Waste (HTRW) Suggested: TBD	There are known brownfields in the project vicinity, therefore this reviewer should have experience in dealing with brownfields. This expertise may be covered by another discipline.

5. INDEPENDENT EXTERNAL PEER REVIEW (IEPR)

Type I Independent External Peer Review (IEPR) will not be conducted for this study. Type II Safety Assurance Review (SAR) may be conducted on the DDR and design plans and specifications depending on the nature of plans proposed and significance of any modifications to the existing flood control project.

6. POLICY AND LEGAL COMPLIANCE REVIEW

All decision documents will be reviewed throughout the study process for their compliance with law and policy. Guidance for policy and legal compliance reviews is addressed in Appendix H, ER 1105-2-100. These reviews culminate in determinations that the recommendations in the reports and the supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC Commander. DQC and ATR augment and complement the policy review processes by addressing compliance with pertinent published Army policies, particularly policies on analytical methods and the presentation of findings in decision documents.

7. COST ENGINEERING DIRECTORY OF EXPERTISE (DX) REVIEW AND CERTIFICATION

For CAP projects, ATR of the costs may be conducted by pre-certified district cost personnel within the region or by the Walla Walla Cost DX. The pre-certified list of cost personnel has been established and is maintained by the Cost DX. The cost ATR member will coordinate with the Cost DX for execution of cost ATR and cost certification. The Cost DX will be responsible for final cost certification and may be delegated at the discretion of the Cost DX.

8. MODEL CERTIFICATION AND APPROVAL

Approval of planning models under EC 1105-2-412 is not required for CAP projects. MSC commanders remain responsible for assuring the quality of the analyses used in these projects. ATR will be used to ensure that models and analyses are compliant with Corps policy, theoretically sound, computationally accurate, transparent, described to address any limitations of the model or its use, and documented in study reports.

a. EC 1105-2-412.

This EC does not cover engineering models used in planning. The responsible use of well-known and proven USACE developed and commercial engineering software will continue and the professional practice of documenting the application of the software and modeling results will be followed. As part of the USACE Scientific and Engineering Technology (SET) Initiative, many engineering models have been identified as preferred or acceptable for use on Corps studies and these models should be used whenever appropriate. The selection and application of the model and the input and output data is still the responsibility of the users and is subject to DQC and ATR.

b. Planning and Engineering Models.

Tables 2 and 3 list the planning and engineering models that are anticipated to be used in the development of the decision document and the status of their approval/certification.

Table 2. Planning Model Certification Status

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
Cost-effective / Incremental Cost Analysis: IWR Planning Suite with Annualizer 2.0.6.1	Will be used to evaluate the various plans and select the NER plan.	Certified
Environmental Assessment / Habitat Models	Omaha District will use an approved/certified HSI model, the HEP process, and CE/ICA as a tool to determine the best-buy plan. The exact HSI model is not known at this time.	Certified

Table 3. Engineering Model Certification Status

Model Name and Version	Brief Description of the Model and How It Will Be Applied in the Study	Approval Status
HEC-RAS 4.1	HEC-RAS is designed to perform one-dimensional hydraulic calculations for a full network of natural and constructed channels. The HEC-RAS system contains four one-dimensional river analysis components for: (1) steady flow water surface profile computations; (2) unsteady flow simulation; (3) movable boundary sediment transport computations; and (4) water quality analysis. A key element is that all four components use a common geometric data representation and common geometric and hydraulic computation routines. In addition to the four river analysis components, the system contains several hydraulic design features that can be invoked once the basic water surface profiles are computed. This model will be used to verify impacts of alternatives on flood boundaries, and in assessing the hydraulics of the channel and channel stability.	HH&C CoP Preferred Model

9. REVIEW SCHEDULES AND COSTS

a. ATR Schedule and Cost.

- (1) Draft Feasibility Report
 - Schedule: TBD
 - Budget Estimate: \$35,000 ATR Team / \$25,000 PDT
- 2) Draft DDR and 95% Plans and Specifications
 - Schedule: TBD
 - Budget Estimate: TBD

The estimated schedule for ATR to occur is after draft feasibility report exists and after DQC has occurred. The estimated cost for ATR is \$60,000, which is to be divided between the ATR Team and the Omaha District PDT.

10. PUBLIC PARTICIPATION

State and Federal resource agencies may be invited to participate in the study covered by this review plan as partner agencies or as technical members of the PDT, as appropriate. Agencies with regulatory review responsibilities will be contacted for coordination as required by applicable laws and procedures. The ATR team will be provided copies of public and agency comments. The public will be provided the opportunity to provide input during public scoping meetings, during public involvement meetings on the tentatively selected plan, and during the review period for the draft final report. The decision document will be made available online and through request, or any other means identified during the study process.

a. Planned Future Public Involvement

- Public Scoping Meetings (Spring 2014) – The purpose of this meeting will be to kickoff the study and gather input from the public, and agencies regarding problems and opportunities, resources and issues of concern, constraints, and potential alternative solutions.
- Additional Public Involvement Meetings – There will be public meetings on the Draft Report and potentially could be other public meetings as the study unfolds. The specific dates of those meetings are yet to be determined.

b. Document Availability

Feasibility Study documents will be posted on the Omaha District Website

11. REVIEW PLAN APPROVAL AND UPDATES

a. District Coordination.

This Review Plan outlines quality assurance procedures for conducting the feasibility study and design of the project in accordance with current USACE, NWD, RMO, and District policies and guidance. Preparation of the Review Plan has been coordinated across all technical elements within the District. The recommended review procedures were developed in a risk-informed manner, and the factors considered are documented in Section 5.a. The Omaha District Chief of Engineering, Chief of Planning, and Planning Quality Manager have all reviewed this Review Plan and concur with its recommendations.

b. Review Management Organization (RMO) Coordination.

The RMO is responsible for managing the overall peer review effort described in this review plan. The RMO for Section 205 is the home MSC, which is Northwestern Division. The MSC will coordinate and approve the review plan and manage the Agency Technical Review (ATR). The MSC will coordinate the IEPR effort with the Flood Risk Management Planning Center of Expertise (FRM-PCX), which will administer the Type I IEPR. The home District will post the approved review plan on its public website and provide the NWD District Support Planner with the link. A copy of the approved review plan (and any updates) will be provided to the FRM-PCX to keep the PCX apprised of requirements and review schedules.

The RMO will coordinate with the Cost Engineering Directory of Expertise (DX) to ensure the appropriate expertise is included on the review teams to assess the adequacy of cost estimates, construction schedules and contingencies.

c. Review Plan Approval and Updates.

The NWD Planning Chief has been delegated responsibility for approving this review plan and ensuring that use of the NWD Model Review Plan is appropriate for the specific project covered by the plan. The review plan is a living document and may change as the study progresses. The home district is responsible for keeping the review plan up to date. Minor changes to the review plan since the last NWD Planning Chief approval are documented in Attachment 2. Significant changes to the review plan (such as changes to the scope and/or level of review) should be re-approved by the NWD Planning Chief following the process used for initially approving the plan. Significant changes may result in the NWD Planning Chief determining that use of the NWD Model Review Plan is no longer appropriate. In these cases, a project specific review plan will be prepared and approved in accordance with EC 1165-2-214.

12. REVIEW PLAN POINTS OF CONTACT

Public questions and/or comments on this review plan can be directed to the following points of contact:

a. Omaha District

Jeff Greenwald
Lead Plan Formulator / Project Manager
402-995-2698

J. Greg Johnson
Chief, Plan Formulation and Project Management Section
Planning Branch
402-995-2701

b. Northwestern Division

Jeremy Weber
District Support Team Planner
503-808-3858

ATTACHMENT 1: TEAM ROSTERS

DISTRICT PROJECT DEVELOPMENT TEAM (PDT)

PDT MEMBER	ORG	DISCIPLINE	PHONE	E-MAIL	EXP.
Jeff Greenwald	PM-AA	Planner and Project Manager	402-995-2698	Jeffrey.R.Greenwald@usace.army.mil	7
	PM-P	Funds Manager			6
	PM-AC	Environmental Resource Specialist			10
	ED-HF	Hydraulic Engineer, P.E.			9
	ED-HD	Hydraulic Engineer, P.E.			5
	ED-GA	Geotechnical Engineer, P.E.			20
	ED-C	Cost Engineer, P.E.			34
	ED-DF	Structural Engineer			2
	RE-C	Real Estate Specialist			5
	PM-AB	Economist and Recreation Planner			5
	PM-AB	Cultural Resource Specialist			25

For further information on credentials and years of experience contact the individuals list or Jeff Greenwald, Project Manager.

NORTHWESTERN DIVISION POLICY REVIEW AND DISTRICT SUPPORT TEAM

PDT MEMBER	DISCIPLINE	PHONE	E-MAIL
Jeremy Weber	Planner	503-808-3858	Jeremy.J.Weber@usace.army.mil
	Economist		
	Environmental & Cultural Resources		
	Engineering		

AGENCY TECHNICAL REVIEW (ATR) TEAM -- TBD

PDT MEMBER	ORG	DISCIPLINE	PHONE	E-MAIL
		ATR Lead		
		Planner		
		Economist		
		Environmental		
		Cultural Resources		
		Hydraulic Engineer		
		Geotechnical Engineer		
		Structural Engineer		
		Cost Engineer		
		Real Estate Specialist		
		HTRW Specialist		

ATTACHMENT 2: REVIEW PLAN REVISIONS

Revision Date	Description of Change	Page / Paragraph Number
19 Dec 2014	Revised ATR and IEPR Team tables, split Planning and Engineering Model Certification Table into two separate tables, and updated MSC Team. Revisions made to address NWD review comments.	Tables 1 and 2, and created new Table 3
9 Sep 2014	Draft Review Plan Submitted for Review and Approval	